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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/776,202	02/02/2001	Harold R. Garner	UTSW:1028	1495

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[REDACTED] EXAMINER

FORMAN, BETTY J

ART UNIT	PAPER NUMBER
1634	

DATE MAILED: 06/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/776,202	GARNER, HAROLD R.	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 16 May 2003.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 62-69 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 62-69 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ . |

FINAL ACTION

1. This action is in response to papers filed 16 May 2003 in which the rejections presented in the Office Action dated 23 October 2002 were discussed and Exhibits A & B were presented. All of the arguments have been thoroughly reviewed and are discussed below. The previous objections and rejections are maintained. The previous objections and rejections are reiterated below for Applicant's convenience.

Claims 62-69 are under prosecution.

Priority

2. Applicant's claim for domestic priority under 35 U.S.C. 119(e) and 120 is acknowledged. However, the Provisional Application 60/087,948, filed 6 June 1998 and the Non-Provisional Application 09/326,526, filed 4 June 1999 the upon which priority is claimed does not provide adequate support under 35 U.S.C. 112 for claims 62-69 of this application. The instant claims are drawn to a device comprising: a chemical reactor (Claim 62 and Claims 63-69 which depend from Claim 62) and further comprising a reagent manifold (Claim 63). While the '948 and '526 applications teach a reaction chamber, syringe injectors and liquid handling system. They do not teach the instantly claimed chemical reactor and reagent manifold which encompass a very large genus of reactors and manifolds. Because the '948 and '526 applications merely teach a reaction chamber, syringe injectors and liquid handling system the applications do not provide support for the broadly claimed chemical reactor and reagent manifold.

Response to Arguments

Applicant argues that the recitations "reaction chamber into which chemicals are pumped" and "automated fluidics system" provide adequate support for the instantly claimed "chemical reactor" and "reagent manifold". The argument has been considered but is not found persuasive because, as stated above, the instantly claimed chemical reactor and reagent manifold encompass a very large genus of reactors and manifolds not described in the specification. The reaction chamber and automated fluidics system are merely two members of the large genus. As Applicant notes, the '948 and '526 specifications teach reaction chambers and automated fluidic systems and do not teach chemical reactors and reagent manifolds. Because the genus of chemical reactors and reagent manifolds encompasses many members and because the '948 and '526 specifications describe only two members of the genus, the specification does not provide support for the broadly claimed reactors and manifolds.

Specification

3. The Preliminary amendment filed 6 April 2001 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

Claims 62 and 63 added in the Preliminary Amendment of 6 April 2001 recite "chemical reactor" (Claim 62); "reagent manifold" (Claim 63); "spatial optical modulators" and "reflectors" (Claim 67); "halogen lamp" and "light emitting diode" (Claim 68); and "reflective liquid crystal device" and "transmissive liquid crystal device" (Claim 68). While the specification teaches a

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reaction chamber, syringe injectors and mirrors(page 15, lines 1-15) liquid handling system (page 16, first full paragraph-page 17, first paragraph). The specification does not teach or describe the newly claimed chemical reactor, reagent manifold, spatial optical modulators, reflectors, halogen lamp, light emitting diode, reflective liquid crystal device, and transmissive liquid crystal device. Therefore, the Preliminary Amendment introduces new matter which is not supported by the specification.

Applicant is required to cancel the new matter in the reply to this Office Action.

Response to Arguments

4. Applicant reiterates the argument discussed above regarding chemical reactors and reagent manifolds. The argument is not found persuasive for the reasons stated above.

Applicant argues that the skilled artisan will recognize that, e.g., a "halogen lamp" is a light source which produces a light 14" and that a halogen lamp may be used for a "light catalyzed chemical reaction." The argument has been considered but is not found persuasive because, while a "light source" is described in the specification, light source encompasses an enormous genus. While a halogen lamp is a light source, it is but one of the enormous genus. The specification does not describe a halogen lamp light source nor does the specification teach various light sources. Because the newly claimed halogen lamp is not described in the originally filed specification and because the halogen lamp is a very specific species of the genus disclosed, the originally filed specification does not provide support for the claimed halogen lamp.

Applicant argues that a "spatial optical modulator" and "reflective optics" are illustrated in the originally filed specification and therefore support for these limitations is provided. The argument has been considered but is not found persuasive because, while the specification does provide drawings illustrating an optical system, the drawing and the specification do not teach or describe the very specific components instantly claimed i.e. "spatial optical modulator"

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and "reflective optics". Therefore, the originally filed specification does not provide support for these limitations.

Applicant further argues that the specification teaches that other light deflection systems may be used instead of a micromirror array which provides support for the claimed "light emitting diodes, receptive liquid crystal device and transmissive liquid crystal device,". The argument has been considered but is not found persuasive because, while the specification does provide drawings illustrating an optical system, the drawing and the specification do not teach of describe the very specific components instantly claimed i.e. "light emitting diodes, receptive liquid crystal device and transmissive liquid crystal device. Therefore, the originally filed specification does not provide support for these limitations.

The proscription against the introduction of new matter in a patent application (35 .S.C. 132 and 251) serves to prevent an applicant from adding information that goes beyond the subject matter originally filed. See *In re Rasmussen*, 650 F.2d 1212, 1214, 211 USPQ 323, 326 (CCPA 1981). See MPEP § 2163.06 through § 2163.07 for a more detailed discussion of the written description requirement and its relationship to new matter. The claims as filed in the original specification are part of the disclosure and, therefore, if an application as originally filed contains a claim disclosing material not found in the remainder of the specification, the applicant may amend the specification to include the claimed subject matter. *In re Benno*, 768 F.2d 1340, 226 USPQ 683 (Fed. Cir. 1985). Thus, the written description requirement prevents an applicant from claiming subject matter that was not adequately described in the specification as filed. New or amended claims which introduce elements or limitations which are not supported by the as-filed disclosure violate the written description requirement. See, e.g., *In re Lukach*, 442 F.2d 967, 169 USPQ 795 (CCPA 1971) (subgenus range was not supported by generic disclosure and **specific example** within the subgenus range); *In re Smith*, 458 F.2d 1389, 1395, 173 USPQ 679, 683 (CCPA 1972) (a subgenus is not necessarily described by a genus encompassing it and a species upon which it reads).(MPEP 2163)

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 62-69 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 62, 63, 67, 68 and 69 added in the Preliminary Amendment of 6 April 2001 recite “chemical reactor” (Claim 62 and depending Claims 63-69); “reagent manifold” (Claim 63); “spatial optical modulators” and “reflectors” (Claim 67); “halogen lamp” and “light emitting diode” (Claim 68); and “reflective liquid crystal device” and “transmissive liquid crystal device” (Claim 69). While the specification teaches a reaction chamber, syringe injectors and mirrors (page 15, lines 9-10) and liquid handling system (page 16, first paragraph-page 17, first paragraph). The specification does not teach or describe the newly claimed chemical reactor and reagent manifold in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

To the extent that the claimed devices are not described in the instant disclosure, claims 62-69 are also rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, since a disclosure cannot teach one to make or use something that has not been described.

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MPEP 2163.06 notes "IF NEW MATTER IS ADDED TO THE CLAIMS, THE EXAMINER SHOULD REJECT THE CLAIMS UNDER 35 U.S.C. 112, FIRST PARAGRAPH - WRITTEN DESCRIPTION REQUIREMENT. *IN RE RASMUSSEN*, 650 F.2D 1212, 211 USPQ 323 (CCPA 1981)." MPEP 2163.02 teaches that "Whenever the issue arises, the fundamental factual inquiry is whether a claim defines an invention that is clearly conveyed to those skilled in the art at the time the application was filed...If a claim is amended to include subject matter, limitations, or terminology not present in the application as filed, involving a departure from, addition to, or deletion from the disclosure of the application as filed, the examiner should conclude that the claimed subject matter is not described in that application." MPEP 2163.06 further notes "WHEN AN AMENDMENT IS FILED IN REPLY TO AN OBJECTION OR REJECTION BASED ON 35 U.S.C. 112, FIRST PARAGRAPH, A STUDY OF THE ENTIRE APPLICATION IS OFTEN NECESSARY TO DETERMINE WHETHER OR NOT "NEW MATTER" IS INVOLVED. APPLICANT SHOULD THEREFORE SPECIFICALLY POINT OUT THE SUPPORT FOR ANY AMENDMENTS MADE TO THE DISCLOSURE" (emphasis added).

Response to Arguments

7. Applicant relies on the argument discussed above regarding new matter and the priority claim. The arguments are not deemed persuasive as discussed above.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 62-69 are rejected under 35 U.S.C. 102(e) as being anticipated by Fodor et al (U.S. Patent No. 6,379,895, filed 6 December 1990).

Regarding Claim 62, Fodor et al disclose a device for synthesizing a plurality of multimers comprising: a chemical reactor comprising one or more isolated reaction sites and an optical system operably linked to the chemical reactor which selectively irradiates one or more reaction sites (Column 18, line 32-Column 19, line 42 and Fig. 12).

Regarding Claim 63, Fodor et al disclose the device further comprising a reagent manifold (i.e. pump) operably linked to the chemical reactor (Column 19, lines 3-9).

Regarding Claim 64, Fodor et al disclose the device further comprising a controller for controlling the optical system (i.e. computer and computer program Column 22, lines 1-10 and Tables 4 & 5).

Regarding Claim 65, Fodor et al disclose the device wherein the controller is a computer (Column 22, lines 1-10 and Tables 4 & 5).

Regarding Claim 66, Fodor et al disclose a device for synthesizing a plurality of multimers comprising: a chemical reactor comprising one or more reactor sites, a reagent manifold operably linked to the chemical reactor, an optical system operably linked to the chemical reactor which selectively irradiates one or more reaction sites, and a controller operably linked to the optical system for controlling the selective irradiation of reaction sites (Column 18, line 32-Column 19, line 42; Column 22, lines 1-10 and Tables 4 & 5; and Fig. 12).

Regarding Claim 67, Fodor et al disclose the device wherein the optical system comprises a light source, filter system, lenses, spatial optical modulator and reflectors (Column 16, line 15-Column 17, line 14; Column 18, line 32-Column 19, line 42; and Fig. 12).

Regarding Claim 68, Fodor et al disclose the device wherein the light source is selected from the groups Xenon, laser and light emitting diode (Column 16, line 15-53; Column 19, lines 10-31; and Fig. 12).

Regarding Claim 69, Fodor et al disclose the device wherein the spatial optical modulator is selected from the group consisting of reflective and transmissive liquid crystal device (Column 17, lines 2-11).

Response to Arguments

10. Applicant argues that Fodor et al does not anticipate the instantly claimed invention because unlike Fodor et al “each and every one of the claims at issue in this application uses a computer controlled spatial light modulator”.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e. computer controlled spatial light modulator) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant further argues that unlike the instant invention, the device of Fodor et al requires photolithographic reticles. The argument has been considered but is not found persuasive because the instant claims are drawn to a device “comprising” a chemical reactor and optical system. The open claim language “comprising” encompasses any additional components in the Fodor et al device. Therefore, Fodor et al disclose the device as instantly claimed.

11. Claims 62-69 are rejected under 35 U.S.C. 102(e) as being anticipated by Cerrina et al (U.S. Patent No. 6,375,903 B1, filed 23 February 1998).

Regarding Claim 62, Cerrina et al disclose a device for synthesizing a plurality of multimers comprising: a chemical reactor comprising one or more isolated reaction sites and an optical system operably linked to the chemical reactor which selectively irradiates one or more reaction sites (Claims 1-15 and Fig. 1).

Regarding Claim 63, Cerrina et al disclose the device further comprising a reagent manifold (i.e. flow cell) operably linked to the chemical reactor (Claims 1-15 especially Claim 14 and Fig. 1).

Regarding Claim 64, Cerrina et al disclose the device further comprising a controller for controlling the optical system (Claims 1-15 especially Claim 6 and Fig. 1).

Regarding Claim 65, Cerrina et al disclose the device wherein the controller is a computer (Claims 1-15 especially Claim 6 and Fig. 1).

Regarding Claim 66, Cerrina et al disclose a device for synthesizing a plurality of multimers comprising: a chemical reactor comprising one or more reactor sites, a reagent manifold operably linked to the chemical reactor, an optical system operably linked to the chemical reactor which selectively irradiates one or more reaction sites, and a controller operably linked to the optical system for controlling the selective irradiation of reaction sites (Claims 1-15 and Fig. 1).

Regarding Claim 67, Cerrina et al disclose the device wherein the optical system comprises a light source, filter system, lenses, spatial optical modulator and reflectors (Claims 1-15 and Fig. 1).

Regarding Claim 68, Cerrina et al disclose the device wherein the light source is selected from the group including mercury lamp (Column 4, line 66-Column 5, line 11).

Regarding Claim 69, Cerrina et al disclose the device wherein the spatial optical modulator is selected from the group consisting of digital micromirror (Column 5, lines 41-61).

12. Claims 62-69 are rejected under 35 U.S.C. 102(e) as being anticipated by Gao et al (U.S. Patent No. 6,426,184, filed 11 February 1998).

Regarding Claim 62, Gao et al disclose a device for synthesizing a plurality of multimers comprising: a chemical reactor comprising one or more isolated reaction sites and an optical system operably linked to the chemical reactor which selectively irradiates one or more reaction sites (Column 24, line 36-Column 26, line 52 and Fig. 8).

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Regarding Claim 63, Gao et al disclose the device further comprising a reagent manifold operably linked to the chemical reactor (Column 24, lines 38-55).

Regarding Claim 64, Gao et al disclose the device further comprising a controller for controlling the optical system (Column 24, lines 38-42 and Column 30, lines 11-28).

Regarding Claim 65, Gao et al disclose the device wherein the controller is a computer (Column 30, lines 11-28).

Regarding Claim 66, Gao et al disclose a device for synthesizing a plurality of multimers comprising: a chemical reactor comprising one or more reactor sites, a reagent manifold operably linked to the chemical reactor, an optical system operably linked to the chemical reactor which selectively irradiates one or more reaction sites, and a controller operably linked to the optical system for controlling the selective irradiation of reaction sites (Column 24, line 36-Column 26, line 52 and Fig. 8).

Regarding Claim 67, Gao et al disclose the device wherein the optical system comprises a light source, filter system, lenses, spatial optical modulator and reflectors (Column 24, line 36-Column 26, line 52 and Fig. 8).

Regarding Claim 68, Gao et al disclose the device wherein the light source is selected from the group including mercury lamp, xenon lamp, halogen lamp, laser and light emitting diode (Column 25, lines 6-21).

Regarding Claim 69, Gao et al disclose the device wherein the spatial optical modulator is selected from the group consisting of digital micromirror, transmissive liquid crystal and reflective liquid crystal (Column 25, line 34-Column 26, line 22).

Response to Arguments

12. Applicant argues that Exhibits A & B establish completion of the instantly claimed device prior to the filing date of Cerrina et al and Gao et al. Applicant further stated that the Exhibits illustrate the invention as described in provisional application 60/087,948 filed 4 June 1998 to which the instant application claims priority. Applicant concludes that the Cerrina et al and Gao et al are not prior art references as evidenced by Exhibits A & B.

Exhibits A & B have been reviewed but are not found persuasive to overcome the teachings of Cerrina et al and Gao et al because as stated above, the applications to which Applicant claims priority do not provide support for the instant claims. Furthermore, the Exhibits do not supplement the priority applications by teaching or describing the missing elements as discussed above. Therefore, Exhibits A & B are not sufficient to overcome the prior art teachings of Cerrina et al and Gao et al. The rejections are maintained.

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

14. No claim is allowed.
15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (703) 306-5878. The examiner can normally be reached on 6:30 TO 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (703) 308-1119. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 308-8724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.



BJ Forman, Ph.D.
Patent Examiner
Art Unit: 1634
June 20, 2003